



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,101	07/11/2003	Joseph R. Byrum	MSUT:008US	3878
73905 7590 09/25/2009 SONNENSCHN NATH & ROSENTHAL LLP P.O. BOX 061080 SOUTH WACKER DRIVE STATION, WILLIS TOWER CHICAGO, IL 60606				
			EXAMINER ROBINSON, KEITH O NEAL	
			ART UNIT 1638	PAPER NUMBER
			MAIL DATE 09/25/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/618,101

Applicant(s)

BYRUM ET AL.

Examiner

KEITH O. ROBINSON

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date 4/24/2009
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 6, 2009 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. Applicant's amendment of claims 1, 15, 29 and 30 and cancellation of claims 33-40, filed July 6, 2009, have been received and entered in full.

3. Claims 1-32 are under examination.

Response to Arguments

4. Applicant's arguments, see page 8, paragraph B of 'Remarks' filed July 6, 2009, regarding the 35 USC § 112, second paragraph rejection on pages 2-3 of the Office Action mailed February 17, 2009 have been fully considered and are deemed persuasive. The rejection has been withdrawn.

Claim Rejections - 35 USC § 103

5. Claims 1-32 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcox (Crop Sci. 38: 900, 1998), in view of Conway (U.S. Patent No. 6,140,556, October 31, 2000). The rejection is maintained for the reasons of record as set forth on pages 3-7 of the Office Action mailed February 17, 2009. Applicant's arguments, filed July 6, 2009, have been fully considered but are not persuasive.

Applicant argues the soybean line cited in the Wilcox reference (soybean line 'C1944') is not "agronomically elite" and that whether a soybean line is considered to be "agronomically elite" is not based solely on its yield potential but rather on a combination of agronomic traits (see page 8, last paragraph to page 9, lines 1-4 of 'Remarks' filed July 6, 2009).

This is not persuasive. The specification teaches that C1944 is soybean variety SN30003 (see page 43, lines 21-24) and that an agronomically elite soybean plant has a yield in excess of 35 bushels per acre (see page 10, line 10). Wilcox teaches that soybean line C1944 has a yield of 2999 kg per hectare (see page 900, 1st column); therefore, one of skill in the art would recognize that this line is an agronomically elite soybean plant. In addition, as stated above, the specification teaches that C1944 is soybean variety SN3000; thus, it too would have the combination of agronomic traits as the claimed invention as would any progeny or subsequent generation thereof.

Applicant argues that the Examiner's assertion that one of skill in the art would have had an expectation of success is conclusory and mistaken because no reference is discussed that would demonstrate that there would have been any expectation of

success at the present filing date in spite of the well-known negative correlation between the one or more of the traits of yield, mean whole seed total protein content and mean whole seed total oil content which teaches away from such an expectation (see page 9, 1st full paragraph of 'Remarks' filed July 6, 2009).

This is not persuasive. One of ordinary skill in the art would have had a reasonable expectation of success based on the combined teachings of the cited references. The Wilcox reference teaches soybean line C1944 (i.e., soybean variety SN30003) having a mean whole seed total protein content of between 44% and 50%, a mean whole seed total protein plus oil content of between 64% and 70% and a commercially significant yield. It would be obvious to one of ordinary skill in the art that a soybean plant having a high oil content can be crossed with soybean line C1944 (i.e., soybean variety SN30003) and progeny having the claimed characteristics can be selected based on the teachings of Conway.

Applicant argues that Wilcox 1998b (Crop Science 38: 1536-1540, 1998; now cited as reference C83, not previously discussed on the record, but was discussed in the Interview of May 21, 2009) teaches that when an increase in seed protein content is selected for, then seed oil content declines and thus show that there would have been no expectation of success because of this negative correlation (see page 9, last paragraph to page 11, last paragraph of 'Remarks' filed July 6, 2009).

This is not persuasive. The specification teaches that C1944 is soybean variety SN30003 (see page 43, lines 21-24). Wilcox teaches that C1944 is an agronomically elite soybean plant having a mean whole seed total protein content of between 44% and

50%, a mean whole seed total protein plus oil content of between 64% and 70% and a commercially significant yield (see page 900, 1st column) and Conway teaches using a soybean cultivar in a cross with another soybean cultivar to produce novel soybean cultivars.

Thus, one of ordinary skill in the art would have had an expectation of success, i.e. that any resulting progeny plant line would simultaneously display the claimed characteristics, such as the claimed simultaneous levels of seed oil content, seed protein content and seed oil plus seed protein content because Conway teaches "[b]reeding programs combine desirable traits from two or more cultivars...into breeding pools from which cultivars are developed by selfing and selection of desired phenotypes...[and] [t]he new cultivars are evaluated to determine which have commercial potential" (see column 2, lines 52-56).

One of ordinary skill in the art would recognize that desirable trait lacking in soybean variety SN30003 could be supplemented in any progeny by crossing soybean variety SN30003 with another soybean plant that had the desired trait to produce progeny having the claimed characteristics. See MPEP 2141(II) (C) where it states, "A person of ordinary skill in the art is also a person of ordinary creativity, not an automaton." KSR, 550 U.S. at ___, 82 USPQ2d at 1397. "[I]n many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." Id. Office personnel may also take into account "the inferences and creative steps that a person of ordinary skill in the art would employ." Id. at ___, 82 USPQ2d at 1396".

In addition, Wilcox teach that soybean line C1944 (i.e. soybean variety SN30003) is a high protein soybean line that has an oil content of about 18.4% (see page 900, 1st column). This soybean line has an oil content that does not decrease in view of its higher protein content and based on the teachings of Conway, as discussed above, it would be obvious to one of ordinary skill in the art to use soybean line C1944 (i.e. soybean variety SN30003) in a cross with another soybean line to produce a soybean line with the claimed characteristics of the claimed invention because, as discussed above, Conway teaches that soybean varieties can be crossed to produce progeny with desired traits.

See *KSR International Co. v. Teleflex Inc.* (KSR), 550 U.S. ___, 82 USPQ2d 1385 (2007), where the Supreme Court particularly emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art.” It states “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at ___, 82 USPQ2d at 1395. The Supreme Court further stated that:

“When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Id.* at ___, 82 USPQ2d at 1396. The court also states “[t]he obviousness analysis cannot be confined by . . . overemphasis on the importance of published articles and the explicit content of issued patents. . . . In many fields it may

be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends." KSR , 550 U.S. at ___, 82 USPQ2d at 1396.

Applicant argues that the Examiner's assertion that an oil content of "about 18.4%" would be understood to include an oil content of "at least 20%" is incorrect as these ranges are non-overlapping and clearly distinct (see page 12, 1st paragraph of 'Remarks' filed July 6, 2009).

This is not persuasive. MPEP 2141 (III) teaches "[p]rior art is not limited just to the references being applied, but includes the understanding of one of ordinary skill in the art. The prior art reference (or references when combined) need not teach or suggest all the claim limitations...[and the]...mere existence of differences between the prior art and an invention does not establish the invention's nonobviousness. *Dann v. Johnston*, 425 U.S. 219, 230, 189 USPQ 257, 261 (1976). The gap between the prior art and the claimed invention may not be "so great as to render the [claim] nonobvious to one reasonably skilled in the art."Id . In determining obviousness, neither the particular motivation to make the claimed invention nor the problem the inventor is solving controls. The proper analysis is whether the claimed invention would have been obvious to one of ordinary skill in the art after consideration of all the facts".

In the instant case, one of ordinary skill in the art would recognize that any desirable trait lacking in soybean variety SN30003 could be supplemented in any progeny by crossing soybean variety SN30003 with another soybean plant that had the desired trait to produce progeny having the claimed characteristics. See MPEP 2141(II) (C) where it states, "A person of ordinary skill in the art is also a person of ordinary

creativity, not an automaton."KSR, 550 U.S. at ___, 82 USPQ2d at 1397. "[I]n many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle."Id. Office personnel may also take into account "the inferences and creative steps that a person of ordinary skill in the art would employ."Id. at ___, 82 USPQ2d at 1396".

Claim Rejections - 35 USC § 102/103

6. Claims 1-12, 14, 15, 29 and 32 remain rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wilcox (Crop Sci. 38: 900, 1998). The rejection is maintained for the reasons of record as set forth on pages 13-15 of the Office Action mailed August 18, 2008. Applicant's arguments, filed July 6, 2009, have been fully considered but are not deemed persuasive.

Applicant argues the soybean line cited in the Wilcox reference (soybean line 'C1944') is not "agronomically elite" and that to be "agronomically elite" is not based solely on its yield potential but rather on a culmination of agronomic traits (see page 12, last paragraph to page 13, lines 1-6 of 'Remarks' filed July 6, 2009).

This is not persuasive. The specification teaches that C1944 is soybean variety SN30003 (see page 43, lines 21-24) and that an agronomically elite soybean plant has a yield in excess of 35 bushels per acre (see page 10, line 10). Wilcox teaches that soybean line C1944 has a yield of 2999 kg per hectare (see page 900, 1st column); therefore, one of skill in the art would recognize that this line is an agronomically elite

soybean plant. In addition, as stated above, the specification teaches that C1944 is soybean variety SN3000; thus, it too would have the combination of agronomic traits as the claimed invention as would any progeny or subsequent generation thereof.

Applicant argues that a mean seed oil content of 18.4% is not equivalent to and would not encompass seed with at least 20% oil (see page 13, 1st full paragraph of 'Remarks' filed July 6, 2009).

This is not persuasive. MPEP 2141 (III) teaches "[p]rior art is not limited just to the references being applied, but includes the understanding of one of ordinary skill in the art. The prior art reference (or references when combined) need not teach or suggest all the claim limitations...[and the]...mere existence of differences between the prior art and an invention does not establish the invention's nonobviousness. *Dann v. Johnston*, 425 U.S. 219, 230, 189 USPQ 257, 261 (1976). The gap between the prior art and the claimed invention may not be "so great as to render the [claim] nonobvious to one reasonably skilled in the art." *Id.* In determining obviousness, neither the particular motivation to make the claimed invention nor the problem the inventor is solving controls. The proper analysis is whether the claimed invention would have been obvious to one of ordinary skill in the art after consideration of all the facts".

In the instant case, one of ordinary skill in the art would recognize that any progeny produced from using the soybean plant taught by Wilcox (i.e., 'C1994') would produce soybean plants having the claimed characteristics because the specification teaches that C1944 is soybean variety SN30003 (see page 43, lines 21-24), as stated above.

Applicant argues that the assertion that a skilled artisan would have had a reasonable expectation of success is made without basis, is tainted with hind-sight reasoning and is taught away from the art (see page 14, 1st paragraph of 'Remarks' filed July 6, 2009).

This is not persuasive. One of ordinary skill in the art would have reasonable expectation of success because Wilcox teaches a soybean plant having a mean whole seed total protein content of between 45% and 50%, a mean whole seed total protein plus oil content of between 64% and 70%, and a commercially significant yield, as the soybean plant that is taught by Wilcox has both a high protein and oil content.

In response to applicant's assertion of hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

7. No claims are allowed.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH O. ROBINSON whose telephone number is (571)272-2918. The examiner can normally be reached Monday – Friday, 8:00 a.m. - 4:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Keith O. Robinson
/David H Kruse/
Primary Examiner, Art Unit 1638